

**REMARKS**


Applicants wish to thank the Examiner for the very thorough consideration given the present application. The Examiner's Final Office Action of **August 30, 2000**, has been received and its contents carefully noted. Filed concurrently herewith is a Request for a *Two(2) Month Extension of Time* that extends the shortened statutory period for response to **January 30, 2001**. Accordingly, Applicants respectfully submit that this response is timely filed.

Claims 11-27 were pending the present application prior to the above amendment. Due to the above actions, claims 11, 14, 17, 21, and 24 have been amended and claims 28-32 have been added. Accordingly, claims 11-32 are now pending in this application and are believed to be in condition for allowance for the reasons stated below.

The Final Office Action rejects claims 11, 13-19 and 21-26 under 35 USC §103(a) as being unpatentable over *Luo et al.* (U.S. Patent 4,042,854) in view of *Admitted Prior Art*, and claims 12, 20 and 27 as being unpatentable over *Luo et al.* in view of *Admitted Prior Art* and *Fischer* (U.S. Patent 3,885,196). The rejections are respectfully traversed for the following reasons and favorable consideration is kindly solicited in view thereof.

The present invention is directed to an electroluminescence (EL) display device. In particular, the present invention is directed to an active matrix-type organic EL display device including, *inter alia*, a first thin film transistor, a second thin film transistor and an organic electroluminescent element formed over a substrate. In addition, the claims have been amended to recite a feature in which the display device further includes a circuit for driving the first thin film transistors comprising third thin film transistors. This feature is supported by the last paragraph of page 13 of the specification and Fig. 2. These features provide an advantage over the prior art since it provides an organic EL that can be driven at a much lower voltage (for example, 10V) than conventional prior art devices.

It should be noted that three criteria must be met to establish a *prima facie* case of obviousness. *M.P.E.P.* §2143. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to achieve the claimed invention. *Id.* Second, there must be a reasonable expectation of success. *In re Rhinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). Third, the prior art must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).




Applicants respectfully submit that the Office Action has failed to set forth a *prima facie* case of obviousness based upon the applied references, and that the present invention is patentably distinct over the prior art. In particular, Applicants respectfully submit that the proposed modifications of *Luo* in view of *Admitted Prior Art* and *Fischer*, alone or in any reasonable combination thereof, fail to teach, disclose or reasonably suggest every feature of the claimed invention. The Final Office Action states that it would have been obvious to one of ordinary skill in the art to use any kind of luminescent display device including an organic or inorganic electroluminescent element on the basis that Applicants *Admitted Prior Art* allegedly states that "an active-matrix type flat-panel display device with light emissive elements and respective drive TFTs which are two-dimensionally arranged along an X-axis and Y-axis in matrix is known."

First, as previously mentioned, Applicants respectfully contend that the present invention is directed to an electroluminescence (EL) display device having an organic electroluminescent element formed over a substrate, and not to an inorganic electroluminescent element. Second, Applicants respectfully contend that the rejection is defective since no admission exists throughout the body of Applicants' specification that states that an organic electroluminescent element being formed over a substrate is well known in the art. Consequently, there is a lack of suggestion or motivation which would impel a skilled artisan to modify *Luo* in a manner that would render Applicants' invention obvious.

There is also a lack of suggestion as to why a skilled artisan would use the proposed *Luo* modifications to achieve the unobvious advantage first recognized by the Applicants. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). As previously mentioned, Applicants have provided an organic EL display device that results in a simple way of manufacturing thin film transistors suitable for being driven at low voltages, and thereby making the use of thin film transistors more practical. Such an advantageous feature is not expressly disclosed or implicitly suggested in the prior art.

Consequently, since the proposed *Luo* modifications fail to recognize the criticality of employing an active matrix-type organic EL display device having at least two thin film transistors in one pixel, and a circuit for driving the first thin film transistors comprising third

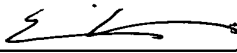


thin film transistors, Applicants respectfully request that the §103(a) rejections of the pending claims be reconsidered and withdrawn in view thereof.

For all of the above reasons, it is respectively asserted that claims 11-32 are in proper condition for allowance. Reconsideration of these claims in view of the above comments is respectively requested. If the Examiner feels that any further discussions would be beneficial in this matter, it is requested that the undersigned be contacted.

Respectfully submitted,  
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ATTACHMENT: Amended Claims  
After Final Amendment  
16 January 2001

11. (Amended) A display device comprising:  
a substrate;  
a plurality of light emissive elements arranged in a matrix form over said substrate;  
a plurality of first thin film transistors formed over said substrate;  
a plurality of second thin film transistors formed over said substrate and connected to said plurality of light emissive elements, respectively, wherein said one of first thin film transistors is connected to a gate of one of said second thin film transistors[.]; and  
a circuit for driving said first thin film transistors, said circuit comprising third thin film transistors,  
wherein each of said light emissive elements comprises an organic electroluminescent material.

14. (Amended) An active matrix type organic luminescent display device comprising:  
a substrate;  
at least one first signal line and one second signal line intersecting to each other formed over said substrate;  
a first thin film transistor formed over said substrate wherein said first signal line is connected to a gate of said first thin film transistor and said second signal line is connected to source or drain of the first thin film transistor;  
a second thin film transistor formed over said substrate wherein the other one of the source or drain of the first thin film transistor is connected to a gate of the second thin film transistor;  
an organic electroluminescent element formed over said substrate and electrically connected to source or drain of said second thin film transistor; and  
a power supply line electrically connected to the other one of the source or drain of the second thin film transistor[.]; and  
a circuit for driving said first thin film transistor, said circuit comprising third thin film transistors.

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17. (Amended) n active matrix type organic luminescent display device comprising:

a substrate;

at least one first signal line and one second signal line intersecting to each other formed over said substrate;

a first thin film transistor formed over said substrate wherein said first signal line is connected to a gate of said first thin film transistor and said second signal line is connected to source or drain of the first thin film transistor;

a second thin film transistor formed over said substrate wherein the other one of the source or drain of the first thin film transistor is connected to a gate of the second thin film transistor;

an organic electroluminescent element formed over said substrate and electrically connected to source or drain of said second thin film transistor;

a power supply line electrically connected to the other one of the source or drain of the second thin film transistor; and

a capacitor formed between the gate of the second thin film transistor and the source or drain of the second thin film transistor to which said power supply line is connected; and

a circuit for driving said first thin film transistor, said circuit comprising third thin film transistors.

21. (Amended) An active matrix type organic luminescent display device comprising:

a substrate;

at least one first signal line and one second signal line intersecting to each other formed over said substrate;

a first thin film transistor formed over said substrate wherein said first signal line is connected to a gate of said first thin film transistor and said second signal line is connected to source or drain of the first thin film transistor;

a second thin film transistor formed over said substrate wherein the gate of said second thin film transistor is electrically connected to said second signal line through said first thin film transistor;

an organic electroluminescent element formed over said substrate; and

a power supply line electrically connected to said organic electroluminescent element through said second thin film transistor; and

a circuit for driving said first thin film transistors, said circuit comprising third thin film transistors.

24. (Amended) An active matrix type organic luminescent display device comprising:

a substrate;

at least one first signal line and one second signal line intersecting to each other formed over said substrate;

a first thin film transistor formed over said substrate wherein said first signal line is connected to a gate of said first thin film transistor;

a second thin film transistor formed over said substrate wherein a gate of said second thin film transistor is electrically connected to said second signal line through said first thin film transistor;

an organic electroluminescent element formed over said substrate;

a power supply line formed over said substrate and electrically connected to said organic electroluminescent element through said second thin film transistor; [and]

a capacitor formed between the gate of the second thin film transistor and said power supply line; and

a circuit for driving said first thin film transistors, said circuit comprising third thin film transistors.